

Cost Recovery Charge (CRC)

Thomas Hackett
CRSP Rates Manager
CRC Presentation, June 4, 2020

Agenda

1. What is the Cost Recovery Charge (CRC)
2. CRC Tiers
3. Process to Trigger a CRC
4. CRC Calculations
5. Application of CRC/Waiver Level (WL)
6. CRC Prior Year Adjustment (PYA)
7. Questions

What is the Cost Recovery Charge (CRC)?

- Cost Recovery Charge (CRC) is a mechanism to adequately recover and maintain a sufficient balance in the Basin Fund caused by expenses exceeding revenues.
 - Basin Fund is a Revolving Fund – Self-Sufficient
 - Primary Reasons – Purchased Power due to high cost or poor hydrology & Capital Asset Failures
- The CRC is a charge on all SHP energy.
- Recalculated before October 1 each year to provide 90 day notification to Customers. The charge, if needed, will be placed into effect on the first day of the first full-billing period beginning on or after January 1.

CRC Tiers

WAPA HAS THE DISCRETION TO IMPLEMENT A CRC BASED ON THE TIERS BELOW.

Tier	Criteria, If the BFBB is:	Review
i	Greater than \$150 million, with an expected decrease to below \$75 million	Annually
ii	Less than \$150 million but greater than \$120 million, with an expected 50-percent decrease in the next CY	
iii	Less than \$120 million but greater than \$90 million, with an expected 40-percent decrease in the next CY	
iv	Less than \$90 million but greater than \$60 million, with an expected 25-percent decrease in the next CY	Semi-Annual (August / February)
v	Less than \$60 million but greater than \$40 million with an expected decrease to below \$40 million in the next CY	Monthly

CRC Schedule

Task	Respective Dates Under Table CRC Tiers		
	i, ii, and iii	iv ¹	v ²
24-month Study (Forecast used to Model Projections)	August 1	August 1 February 1	Monthly Study
CRC Notice to Customers	October 1	October 1 April 1	Monthly
Waiver Request Submitted by Customers	November 15	Within 45 days	Within 30 days
CRC Effective	January 1	January 1 July 1	Updated Monthly

The CRC will be in effect for 12 months from the date implemented unless superseded by another CRC.

Water Release Trigger Criteria

- In the event that Reclamation's 24-month Study projects that Glen Canyon Dam water releases will drop below 8.23 MAF in a water year (October through September), WAPA will recalculate the CRC to include those lower estimates of hydropower generation and the estimated costs for the additional purchase power necessary. WAPA will give the Customers a 45-day notice to request a waiver of the CRC.
- This recalculation will remain in effect for the remainder of the current CY unless superseded.
- In the event that the annual water release volumes from Glen Canyon Dam return to 8.23 MAF or higher during the trigger implementation, a new CRC will be calculated for the next month, and the Customer will be notified.
- ***Have we ever seen water release levels change in the middle of a year? Yes.***

Process to Trigger a CRC

- WAPA calculates CRC according to CRC Tiers.
- If CRC indicated:
 - CRSP Management and CRSP Finance are notified of a prospective CRC.
 - WAPA and Reclamation collaborate to mitigate CRC.
 - WAPA notifies MOA Parties of a prospective CRC
 - WAPA recalculates CRC - Determine if CRC Triggered.
- Notifies MOA Parties of the amount MOA Revenues to be withheld and when funds to be recouped.
- WAPA notifies Customers of CRC

Process and Timelines for a Triggered CRC

- 90-day notice if CRC triggered during Annual review
- 45-day notice if during Semi-annual review
- 30-day notice if Monthly reviews are required.
- Updated Attachment to Exhibit A will be sent to each customer showing the CRC charge and Waiver Level amounts.
 - Agreeing to CRC Waivers for Tribes with Benefit Crediting contracts will be decided between Tribe and Benefit Crediting Partner.
- Customers chose to request Waiver Level
 - CRC – Surcharge on all SHP unless Waiver is selected.
 - Waiver Level = Reduction in SHP allocation
- No Response = acceptance of CRC

Waiver Level under Triggered CRC

- Waiver Level (WL): After the Funds Available have been determined, WAPA will establish a WL that provides WAPA the ability to reduce purchased power expenses by scheduling less energy than what is contractually required. Therefore, for those customers who voluntarily schedule no more energy than their proportionate share of the WL, WAPA will waive the CRC for that year.
 - The WL will be set at the sum of the energy that can be provided through hydro generation and purchased with Funds Available. The WL will not be less than the forecasted Hydro Energy.

Waiver Level under Triggered CRC

- Those choosing the WL will also have their associated capacity reduced
- Reduction in Capacity (RISC): SHP capacity reductions will be made, for those customers taking the CRC waiver, to maintain each customer's existing monthly load factor percentage at the same level provided by the full SHP capacity and energy allocation.
- Does not impact use of Western Replacement Power (WRP) or Customer Displacement Power (CDP)

CRC Calculations

Step One: Determine the Net Balance available in the Basin Fund.



Step Two: Determine the Forecasted Energy Purchase Expenses.



Step Three: Determine the amount of Funds Available for Firming Energy Purchases, and then determining additional revenue to be recovered.



Step Four: Determine the difference between market price and the SLCA/IP Energy Rate.



Step Five: CRC calculated and WL determined.

Step One: Determine the Net Balance available in the Basin Fund.¹

	Description	Example	Formula
BFBB	Basin Fund Beginning Balance (\$)	\$ 117,508,000	Financial forecast
BFTB	Basin Fund Target Balance (\$)	\$ 70,504,800	BFBB – (Tier % *BFBB), or BFTB for Tier i and Tier v ¹
PAR	Projected Annual Revenue (\$) w/o CRC	\$ 190,628,000	Financial forecast
PAE	Projected Annual Expenses (\$)	\$ 249,187,000	Financial forecast
NR	Net Revenue (\$)	\$ -58,559,000	PAR - PAE
NB	Net Balance (\$)	\$ 58,949,000	BFBB + NR

¹ Sample Only, Using Tier iii scenario - Less than \$120M but greater than \$90M, with expected 40% decrease in next CY

Step Two: Determine the Forecasted Energy Purchase Expenses.

	Description	Example	Formula
EA	SHP Energy Allocation (GWh)	5,135	Customer contracts
HE	Forecasted Hydro Energy (GWh)	4,459	Hydrologic & generation forecast
FE	Forecasted Energy Purchase (GWh)	676	EA – HE or anticipated
FFC	Forecasted Average Energy Price per MWh (\$)	\$ 30.57	From commercially available price indices
FX	Forecasted Energy Purchase Expense (\$)	\$ 20,665,320	FE * FFC *1000

EA - Includes FES and Project Use

FFC – Market price from Argus

Step Three: Determine Funds Available for Firming Energy Purchases

	Description	Example	Formula
Determine the amount of Funds Available for firming energy purchases, and then determine additional revenue to be recovered. The following two formulas will be used to determine FA; the lesser of the two will be used.			
FA1	Basin Fund Balance Factor (\$)	\$ 9,109,520	If (NB>BFBB,FX,FX -(BFTB - NB))
FA2	Revenue Factor (\$)	\$ 9,109,520	If (NR>-(BFBB-BFTB), FX, FX+NR +(BFBB-BFTB))
FA	Funds Available (\$)	\$ 9,109,520	Lesser of FA1 or FA2 (not less than \$0)
FARR	Additional Revenue to be Recovered (\$)	\$ 11,555,800	FX - FA

FA1: If \$58,949,000 > \$117,508,000 then use \$20,665,320 for FA1, otherwise use \$20,665,320 - (\$70,504,800 - \$58,949,000) = (\$20,665,320 – \$11,555,800) = **\$9,109,520**

FA2: IF **-\$58,559,000** > - (\$117,508,000 - \$70,504,800), then use \$20,665,320, otherwise use \$20,665,320 + **-\$58,559,000** + (\$117,508,000 - \$70,504,800) = **\$9,109,520**

Step Four: Market price and the SLCA/IP Energy Rate difference

	Description	Example	Formula
Determine the difference between the market price and the SLCA/IP Energy Rate.			
SLIP	SLCA/IP Energy Rate	\$ 12.19	From Rate Schedule SLIP-F10
NRATE	Net Rate: Difference between Market Price and SLCA/IP Energy Rate	\$ 18.38	FFC - SLIP

$$\text{NRATE} = \text{FFC} - \text{SLIP} = \$30.57 - \$12.19 = \$18.38$$

Lost Revenue: Reduction in Allocations from full CROD

WL Allocation Reduces Expenses: Purchased Power @ \$30.57 MWh

Projected Revenue Reduced by Allocation : SLCA/IP Rate @ \$12.19

Reduction in Allocations from full SHP Allocation: Net Rate @ \$18.38

Step Five: CRC calculated and WL determined.

	Description	Example	Formula
Once the FA for purchases and the NRATE for cost have been determined, the CRC can be calculated, and the WL can be determined.			
CRC	Cost Recovery Charge (mills/kWh)	2.25	$FARR/(EA*1,000)$
WL	Waiver Level (GWh)	4,506	$EA - ((FARR/NRATE)/1,000)$
WLP	Waiver Level Percentage of Full SHP	88%	$WL/EA*100$
CRCE	CRC Energy (GWh)	629	$EA - WL$
CRCEP	CRC Energy Percentage of Full SHP	12%	$CRCE/EA*100$
RISC	Reduction in SHP Capacity	12%	Same as CRCEP percentage

CRC: $FARR / (EA*1,000) = \$11,555,800 / (5,135 * 1,000) = 2.25 \text{ mills/kWh}$

WL: $EA - ((FARR/NRATE)/1,000) = 5,135 - ((\$11,555,800/\$18.38)/1,000) = 4,506$

$5,135 - 629 = 4,506$

Application of CRC / Waiver Level

	EA		FE	FX	FA	FARR	CRC Calc	WL	CRC Energy	Amt Recovered
	Total SHP	% SHP	Forecasted	Purchase	Purchase Expense	Funds Available	to recover	FARR/EA	\$18.38	2.25
	5,135,000		676,000.0		\$30.57	\$9,109,520.00	\$11,555,800.00	4,506,284	628,716	\$11,553,750.00
A's	61,620	1.20%	8,112.0	\$247,983.84	\$109,314.24	\$138,669.60	\$2.250	54,075	7,545	\$138,645.00
Astros	426,205	8.30%	56,108.0	\$1,715,221.56	\$756,090.16	\$959,131.40	\$2.250	374,022	52,183	\$958,961.25
Brewers	133,510	2.60%	17,576.0	\$537,298.32	\$236,847.52	\$300,450.80	\$2.250	117,163	16,347	\$300,397.50
Cardinals	318,370	6.20%	41,912.0	\$1,281,249.84	\$564,790.24	\$716,459.60	\$2.250	279,390	38,980	\$716,332.50
Cubs	164,320	3.20%	21,632.0	\$661,290.24	\$291,504.64	\$369,785.60	\$2.250	144,201	20,119	\$369,720.00
D-Backs	261,885	5.10%	34,476.0	\$1,053,931.32	\$464,585.52	\$589,345.80	\$2.250	229,820	32,065	\$589,241.25
Dodgers	451,880	8.80%	59,488.0	\$1,818,548.16	\$801,637.76	\$1,016,910.40	\$2.250	396,553	55,327	\$1,016,730.00
Giants	51,350	1.00%	6,760.0	\$206,653.20	\$91,095.20	\$115,558.00	\$2.250	45,063	6,287	\$115,537.50
Mariners	374,855	7.30%	49,348.0	\$1,508,568.36	\$664,994.96	\$843,573.40	\$2.250	328,959	45,896	\$843,423.75
Mets	210,535	4.10%	27,716.0	\$847,278.12	\$373,490.32	\$473,787.80	\$2.250	184,758	25,777	\$473,703.75
Nationals	25,675	0.50%	3,380.0	\$103,326.60	\$45,547.60	\$57,779.00	\$2.250	22,531	3,144	\$57,768.75
Orioles	241,345	4.70%	31,772.0	\$971,270.04	\$428,147.44	\$543,122.60	\$2.250	211,795	29,550	\$543,026.25
Rangers	349,180	6.80%	45,968.0	\$1,405,241.76	\$619,447.36	\$785,794.40	\$2.250	306,427	42,753	\$785,655.00
Red Sox	513,500	10.00%	67,600.0	\$2,066,532.00	\$910,952.00	\$1,155,580.00	\$2.250	450,628	62,872	\$1,155,375.00
Rockies	400,530	7.80%	52,728.0	\$1,611,894.96	\$710,542.56	\$901,352.40	\$2.250	351,490	49,040	\$901,192.50
Royals	189,995	3.70%	25,012.0	\$764,616.84	\$337,052.24	\$427,564.60	\$2.250	166,733	23,262	\$427,488.75
Tigers	112,970	2.20%	14,872.0	\$454,637.04	\$200,409.44	\$254,227.60	\$2.250	99,138	13,832	\$254,182.50
Twins	277,290	5.40%	36,504.0	\$1,115,927.28	\$491,914.08	\$624,013.20	\$2.250	243,339	33,951	\$623,902.50
White Sox	92,430	1.80%	12,168.0	\$371,975.76	\$163,971.36	\$208,004.40	\$2.250	81,113	11,317	\$207,967.50
Yankees	477,555	9.30%	62,868.0	\$1,921,874.76	\$847,185.36	\$1,074,689.40	\$2.250	419,084	58,471	\$1,074,498.75
Totals	5,135,000	100.00%	676,000.0	\$20,665,320.00	\$9,109,520.00	\$11,555,800.00	\$2.250	4,506,284	628,716	\$11,553,750.00

Application of CRC / Waiver Level

	EA		FE		FX		FA		FARR	CRC Calc	WL	CRC Energy	Amt Recovered
	Total SHP	% SHP	Forecasted	Purchase	Purchase Expense	Funds Available	to recover	FARR/EA		\$18.38			2.25
	5,135,000			676,000.0	\$30.57	\$9,109,520.00	\$11,555,800.00				4,506,284	628,716	\$11,553,750.00
A's	61,620	1.20%		8,112.0	\$247,983.84	\$109,314.24	\$138,669.60	\$2.250			54,075	7,545	\$138,645.00
Astros	426,205	8.30%		56,108.0	\$1,715,221.56	\$756,090.16	\$959,131.40	\$2.250			374,022	52,183	\$958,961.25
Brewers	133,510	2.60%		17,576.0	\$537,298.32	\$236,847.52	\$300,450.80	\$2.250			117,163	16,347	\$300,397.50
Cardinals	318,370	6.20%		41,912.0	\$1,281,249.84	\$564,790.24	\$716,459.60	\$2.250			279,390	38,980	\$716,332.50
Cubs	164,320	3.20%		21,632.0	\$661,290.24	\$291,504.64	\$369,785.60	\$2.250			144,201	20,119	\$369,720.00
D-backs	261,885	5.10%		34,476.0	\$1,053,931.32	\$464,585.52	\$589,345.80	\$2.250			229,820	32,065	\$589,241.25
Dodgers	451,880	8.80%		59,488.0	\$1,818,548.16	\$801,637.76	\$1,016,910.40	\$2.250			396,553	55,327	\$1,016,730.00
Giants	51,350	1.00%		6,760.0	\$206,653.20	\$91,095.20	\$115,558.00	\$2.250			45,063	6,287	\$115,537.50
Mariners	374,855	7.30%		49,348.0	\$1,508,568.36	\$664,994.96	\$843,573.40	\$2.250			328,959	45,896	\$843,423.75
Mets	210,535	4.10%		27,716.0	\$847,278.12	\$373,490.32	\$473,787.80	\$2.250			184,758	25,777	\$473,703.75
Nationals	25,675	0.50%		3,380.0	\$103,326.60	\$45,547.60	\$57,779.00	\$2.250			22,531	3,144	\$57,768.75
Orioles	241,345	4.70%		31,772.0	\$971,270.04	\$428,147.44	\$543,122.60	\$2.250			211,795	29,550	\$543,026.25
Rangers	349,180	6.80%		45,968.0	\$1,405,241.76	\$619,447.36	\$785,794.40	\$2.250			306,427	42,753	\$785,655.00
Red Sox	513,500	10.00%		67,600.0	\$2,066,532.00	\$910,952.00	\$1,155,580.00	\$2.250			450,628	62,872	\$1,155,375.00
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Royals	189,995	3.70%		25,012.0	\$764,616.84	\$337,052.24	\$427,564.60	\$2.250			166,733	23,262	\$427,488.75
Tigers	112,970	2.20%		14,872.0	\$454,637.04	\$200,409.44	\$254,227.60	\$2.250			99,138	13,832	\$254,182.50
Twins	277,290	5.40%		36,504.0	\$1,115,927.28	\$491,914.08	\$624,013.20	\$2.250			243,339	33,951	\$623,902.50
White Sox	92,430	1.80%		12,168.0	\$371,975.76	\$163,971.36	\$208,004.40	\$2.250			81,113	11,317	\$207,967.50
Yankees	477,555	9.30%		62,868.0	\$1,921,874.76	\$847,185.36	\$1,074,689.40	\$2.250			419,084	58,471	\$1,074,498.75
	5,135,000	100.00%		676,000.0	\$20,665,320.00	\$9,109,520.00	\$11,555,800.00	\$2.250			4,506,284	628,716	\$11,553,750.00
WL	1,869,140	36.40%		246,064.0	\$7,522,176.48	\$3,315,865.28	\$4,206,311.20				1,640,287	228,853	\$4,205,565.00
CRC	3,265,860	63.60%		429,936.0	\$13,143,143.52	\$5,793,654.72	\$7,349,488.80				2,865,997	399,863	\$7,348,185.00
	5,135,000	100.00%		676,000.0	\$20,665,320.00	\$9,109,520.00	\$11,555,800.00				4,506,284	628,716	\$11,553,750.00

Application of CRC / Waiver Level

	EA		FE		FX	FA	FARR	CRC Calc	WL	CRC Energy	Amt Recovered
	Total SHP	% SHP	Forecasted	Purchase	Purchase Expense	Funds Available	to recover	FARR/EA	\$18.38		2.25
	3,265,860			429,936.0	\$30.57	\$5,793,654.72	\$7,350,561.73		2,865,938	399,922	\$7,348,185.00
A's	61,620	1.89%		8,112.0	\$247,983.84	\$109,314.24	\$138,669.60	\$2.250	54,074	7,546	\$138,645.00
Astros											
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Cardinals	318,370	9.75%		41,912.0	\$1,281,249.84	\$564,790.24	\$716,459.60	\$2.250	279,384	38,986	\$716,332.50
Cubs	164,320	5.03%		21,632.0	\$661,290.24	\$291,504.64	\$369,785.60	\$2.250	144,198	20,122	\$369,720.00
D-backs	261,885	8.02%		34,476.0	\$1,053,931.32	\$464,585.52	\$589,345.80	\$2.250	229,816	32,069	\$589,241.25
Dodgers											
Giants	51,350	1.57%		6,760.0	\$206,653.20	\$91,095.20	\$115,558.00	\$2.250	45,062	6,288	\$115,537.50
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Red Sox											
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Yankees											
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WL	1,802,528	36.40%		246,064.0	\$7,522,176.48	\$3,315,251.21	\$4,206,925.27	\$2.334	1,640,287	228,853	\$4,205,565.00
CRC+WL	5,068,388			676,000.0	\$20,665,320.00	\$9,108,905.93	\$11,556,414.07		4,506,226	628,774	\$11,553,750.00

Prior Year Adjustment (PYA)

Since the annual determination of the CRC is based upon estimates, an annual, prior-year adjustment (PYA) will be calculated. The CRC PYA for the next subsequent year will be determined by comparing the prior year's estimated firming energy cost to the prior year's actual firming energy cost for the energy provided above the WL. The PYA will result in an increase or decrease to a customer's firm energy costs over the course of the following year.

Prior Year Adjustment (PYA)

The Customers' PYA will be based on their prior calendar year's energy multiplied by the PYA mills/kWh to determine the dollar value that will be assessed. The Customer will be charged or credited for this dollar amount equally in the remaining months of the next year's billing cycle. WAPA will complete this calculation by March 1 of each year. Therefore, if the PYA is calculated in March, the charge/credit will be spread over the remaining 9 months of the CY (April through December).

Prior Year Adjustment (PYA)

- Three Steps:
 - **Determine actual expenses and purchases for previous year's firming. This data will be obtained from WAPA's financial statements at the end of the CY.**
 - **Determine the actual firming cost for the CRC portion.**
 - **Determine Revenue Adjustment (RA) and PYA.**

Step 1 : Determine Actual Expenses and Purchases

		Description	Example	Formula
STEP ONE	Determine actual expenses and purchases for previous year's firming. This data will be obtained from WAPA's financial statements at the end of the CY.			
	PFX	Prior Year Actual Firming Expenses (\$)	\$11,020,808	Monthly Income Statements
	PFE	Prior Year Actual Firming Energy (GWh)	489.879	Financial Settlements Data

Date retrieved from WAPA's Financial System and Energy Information Administration Reports

Step 2: Determine the Actual Firming Cost for the CRC Portion

		Description	Example	Formula
STEP TWO	Determine the actual firming cost for the CRC portion.			
	EAC	Sum of the energy allocations of customers subject to the PYA (GWh)	3,265.860	CRC Customers Worksheet
	FFC	Forecasted Firming Energy Cost – (\$/MWh)	\$30.57	From CRC Calculation
	AFC	Actual Firming Energy Cost – (\$/MWh)	\$22.49	PFX/PFE
	CRCEP	CRC Energy Percentage	12%	From CRC Calculation
	CRCE	Purchased Energy for the CRC (GWh)	399.741	EAC*CRCEP

$$\text{AFC} = (\text{Purchased Power Cost} / \text{Firming Energy}) = \$11,020,808 / 489.879 = \$22.497$$

Step 3: Determine Revenue Adjustment (RA) and PYA

		Description	Example	Formula
STEP THREE	Determine Revenue Adjustment (RA) and PYA.			
	RA	Revenue Adjustment (\$)	-\$3,229,470	(AFC-FFC)*CRCE*1,000
	PYA	Prior Year Adjustment (mills/kWh)	-.99 mills/kWh	(RA/EAC)/1,000

$$RA = ((\text{Actual Firming Cost} - \text{Forecasted Energy Cost}) \times \text{Purchased Energy} \times 1,000) = ((\$22.49 - \$30.57) * 399.741 * 1,000) = -\$3,229,470$$

$$PYA = (\text{Revenue Adjustment} / \text{Energy Allocations of Customers}) / 1,000 = (-\$3,229,470 / 3,265) / 1,000 = -0.989 \text{ mills/kWh}$$

Questions?